US threat to indian scientific institutions

582. SHRI SOLIPETA RAMACHANDRA REDDY: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether it is a fact that India's premier research institutions, the Indian Institute of Sciences, as well as a number of public and private sector companies have been threatened by USA to be put on a watch list.

(b) if so, the reasons therefor; and

(c) the reaction of Government thereto;

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE OF THE MINISTRY OF POWER (SHRI YOGINDER K. ALAGH): (a) to (c) The Indian Institute of Science is not among the Indian organisations notified under US domestic legislation for export control regulations. However, the US Department of Commerce has notified Bharat Electronics Limited (BEL), Bhabha Atomic Research Centre (BARC), Indira Gandhi Centre for Atomic Research (IGCAR) and Indian Rare Earth Limited (IREL).

Whenever curbs on export of some materials are brought about, Government takes up the matter with the concerned authorities and also meets the challenge by building up its own technological capabilities.

Amount spent on research and development

583. SHRI BRATIN SENGUPTA: Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether it is a fact that India spends less than one percent of its GNP on R&D and even this percentage is declining steadily in the nineties from 0.93 in 1989-90 to 0.80 in 1995-96.

(b) What is India's position as far as R&D is concerned, among developing countries; and

(c) whether India can progress given this meagre R&D expenditure?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE OF THE MINISTRY OF POWER (SHRI YOGINDER K. ALAGH): (a) to (c) Official Statistics of Expenditure on Research and Development (R&D) are estimated from the R&D Expenditures of the Central and State Governments', R&D institutions and in-house R&D units of Private Sector and Scientific Industrial Research Organisations (SIRO) recognised by the Department of Scientific and Industrial Research (DSIR). According to this compilation, the expenditure on R&D as percentage of Gross National Product (GNP) has hovered around 0.8% during the nineties. This compilation does not take into account the expenditure that may be incurred by other entities, including businesses and Companies which have not applied for recognition by DSIR.

According to UNESCO sources expenditure on R&D in selected countries as percentage of GNP is as follows:

Country	Reference Year	R&D Exp. as % of GNP
Argentina	1988	0.3
Brazil	1985	0.4
China	1992	0.5
Egypt	1991	1.0
Indonesia	1988	0.2
Republic of Korea	1992	2.1
Pakistan	1990	0.9
Philippines	1984	0.1
Singapore	1987	0.9

The investments made by Central and State Governments on R&D has been on

the increase over the years from Rs. 3235.15 crores in 1989-90 to Rs. 5794.22 crores in 1994-95. Appropriate policy initiatives and the efforts of our scientists has enabled India toward proven achievements in the frontier areas of science and technology and socio-economic sectors. Government is conscious of need to step up allocation on R&D. The investment on R&D can be increased through the joint efforts of both Government and the private sector. In order to encourage and augment industrial investment in R&D, Government has introduced the following fiscal incentives and other support measures from time to time:—

Income tax relief on R&D expenditure.

Weighted Tax deduction for sponsored research.

Customs Duty exemption.

Five Year tax Holiday for commercial R&D companies.

Excise duty waiver for three years on goods produced based on indigenously developed technologies and duly patented in any one of the countries in European Union and in USA or Japan or in both.

Excise duty waiver on indigenous equipment, spare parts, consumables and prototypes procured by non-commercial Scientific and Industrial Research Organisations.

Accelerated Depreciation Allowance on plant and machinery set-up based on indigenous technology.

Price control exemption on domestic R&D based bulk drugs.

Promotion of International R&D collaborations at the enterprise/ institutional levels.

Direct funding of R&D projects in industry by Government Departments.

National Awards for outstanding R&D achievements and commercialisation of public funded R&D.

Indirect benefits like credibility for obtaining financial assistance for R&D from financial institutions.

Setting-up of Technology Development Board in September, 1996.

Biotechnology for medicinal and aromatic plants

584. SHRI SURINDER KUMAR SINGLA:
DR. SHRIKANT RAMCHANDRA JICHKAR:

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) what is being done in the area of biotechnology for medicinal and aromatic plants;

(b) whether the experience of the Department in this area is encouraging;

(c) when will this be commercially exploited; and

(d) what steps are being taken to make this popular?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE OF THE MINISTRY OF POWER (SHRI YOGINDER K. ALAGH): (a) R & D in the area of biotechnology of medicinal and aromatic plants (MAPs) is being carried out in laboratories of CSIR, ICAR, MOEF, universities and through the support of the Department of Biotechnology. The aspects covered include the application of biotechnology for conservation, genetic improvement, micropropagation, production of secondary metabolites and biotransformation of intermediates into pharmaceutically useful end products.

(b) Yes, Sir, the Department of Biotechnology (DBT) has initiated a number of projects in recent years in this area. It has set up three national gene banks at the Central Institute of